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Monitoring near field communication

◇The signal of near field communication (NFC) is observed using anechoic box and handheld spectrum analyzer.

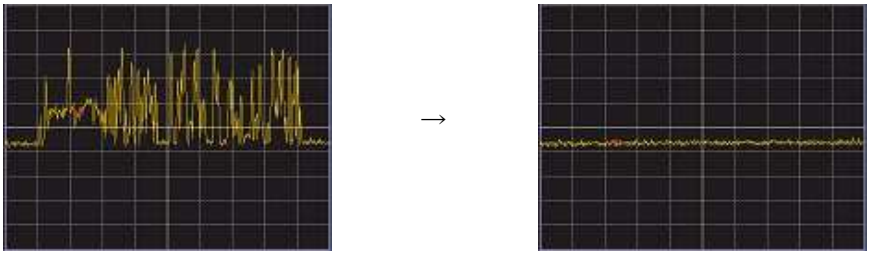
＊ Application ＊

In the contactless near field communication applied to such as wireless power supply, the product development and quality check are performed observing the flow of radio wave.
In order to avoid the interference caused by disturbance noise in the air, large and small anechoic boxes should be prepared.
By putting the whole of measuring instruments in the anechoic boxes, the mutual interference through connectors is prevented at the time of USB or LAN communication.
Moreover, since our handheld spectrum analyzer is capable of battery operation, extra cables are unnecessary. The initial cost can also be minimized.

＊ Solution ＊

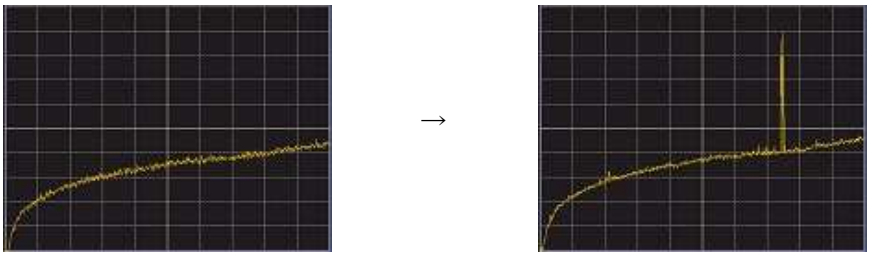
① A measuring antenna suitable for target frequency is installed in a small anechoic box. And then MSA438 is adjusted to a frequency band to be measured. The following photo shows a screen measured by spectrum analyzer being adjusted to 2.4-2.5GHz band.

[Without anechoic box] → [With anechoic box]

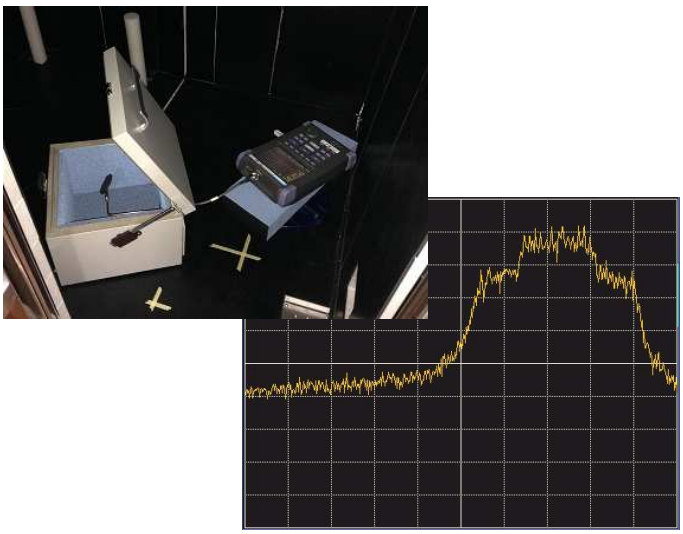


② Small anechoic box putting a transmitting & receiving DUT and spectrum analyzer are installed in large anechoic box. And then NFC is started after confirming no background noise.

[Background noise] → [Under NFC]



③ The flow of radio wave is observed using the measuring function of the spectrum analyzer.



＊ System configuration ＊

① Handheld spectrum analyzer MSA438
② Dedicated battery (MB400)
③ Electromagnetic anechoic box MY5310S
④ Small size anechoic box MY1505
⑤ Measuring antenna set
⑥ Cables

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